

PICK MAIA APPLES

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THE ORTET

Volume Eleven

Midwest Apple Improvement Association

Volume 11 | 2026

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Breeding and Evaluations

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SAVE THE DATE

2026 MAIA Field Day

at Reality Research Farms | Lyons, NY
Wednesday, October 7, 2026
(Schedule TBD)



MAIA Annual Meeting

Wednesday, March 11, 2025 1:00 pm EST

The 2026 MAIA Annual Meeting will be held as a Zoom meeting.

Email kburkhart@maiaapples.com if you wish to receive a Zoom invitation for the annual meeting.

A Message From The Chairman

Stepping into the role of Chairperson, I'm reminded how unusual and remarkable MAIA's journey has been. This organization began as a grassroots effort — a handful of growers making hand crosses, planting seedlings wherever there was room, and betting that a cooperative model could deliver modern apple varieties “for the rest of us.” That vision has held strong through multiple generations of leadership, and it is a privilege to carry the torch forward.

Our founders and long-serving board members built the framework we stand on today. They established a breeding program that has already delivered some of the most successful apples in the country, and they modeled the culture that still defines MAIA — collaboration, inclusiveness, and an unwavering focus on flavor and consumer experience. Their work ensured that growers of all sizes could access high-quality, patented varieties without the barriers that dominate much of the apple industry.

This November, our board gathered at Reality Research to taste through a batch of apples collected from the seedling block. More than 30 apples sat in front of us — the very best from this fall's collection. As we moved down the line sampling each one, someone said what we were all thinking: “Apples have gotten really good.” Twenty years ago, we would have wanted to keep most of them. Today, only a few will advance to the next round of testing. These 30 apples came from roughly 300 seedlings; next year that number jumps to more than 7,000. That moment underscored just how far MAIA's breeding program has come — and how close we are to the next wave of exceptional new varieties.

Reality Research is doing extraordinary work. What began as a small evaluation site has become the engine of MAIA's future. Their team is managing nearly 9,000 seedlings, along with elite selections tested on multiple rootstocks and across diverse climates. Controlled crosses are germinated, budded, and advanced more efficiently than ever before. The result is years saved in the journey from seed to selection — and a breeding pipeline deeper and



Chris Eckert

MAIA Board Chairman
Eckert Orchards, Inc.

more sophisticated than anything MAIA has had in its history.

As Chairperson, my commitment is simple: honor the foundation that was built before me, and help position MAIA for long-term success. That means supporting disciplined breeding work, strengthening our evaluation pipeline, and ensuring that MAIA varieties remain accessible to farm markets, U-pick operations, and commercial growers who count on superior flavor and consumer enthusiasm.

To everyone who has carried MAIA forward — from our founders to the volunteers, from the Board to the Reality Research team, and to every grower who has planted a MAIA tree — thank you. It is an honor to serve in this role, and I look forward to working together as we shape the next generation of great apples.



From the President

2025 MAIA Update

MAIA's goal is to help its members be profitable in growing and marketing MAIA varieties. MAIA was founded by apple growers, and the current board of directors, management team, and new variety developers are all apple growers. MAIA continues to evolve, redefining priorities to meet changing grower needs.

Reality Research, LLC (RRL) and Springbrook Orchards are owned by the Palmer family, third-generation growers in Lyons, New York. Reality Research works with chemical companies and other partners to collect data for potential new crop protection products and other research projects. Twelve years ago, Bill Pitts introduced me to Scott Palmer, his son Brad, and daughter Jackie. At the time, Bill was the Nursery Manager at Wafler Nursery and had some unsold MAIA1 trees on multiple rootstocks. He suggested that MAIA purchase the trees and allow the Palmers to plant them at their farm in case horticultural problems were encountered. A substantial planting across several rootstocks would allow for



MAIA-AM



Bill Dodd

MAIA President

Hillcrest Orchard, Amherst, OH

multiple trials. This model has since become the standard operating procedure for our elite selections.

In 2021, MAIA partnered with Reality Research to build a greenhouse at their facility. Prior to the greenhouse construction, seeds were planted at multiple off-site greenhouse locations, after which seedlings had to be picked up and distributed to growers who volunteered to plant them on their farms. Evaluating seedlings at grower locations proved difficult due to travel constraints. The final seedling block located at a grower site was removed in 2025. The greenhouse marked the final step in consolidating all MAIA breeding activities into a single location.

There are currently about 9,000 seedlings at Reality Research, with more added each year. Many selections that would have been considered very exciting seven or eight years ago are now considered unremarkable and are removed. Today's expectations for eating experience, horticultural performance, and color are much higher. Any selection advancing to Phase II must be truly spectacular. We continue to raise the bar.

Thank you to the Reality Research team for the technical reports included in this issue of the Ortet.

Bill Pitts is a consultant for MAIA and works closely with the Palmer family to manage ongoing breeding activities. The future is very bright.

Reality Research Data for MAIA-SM



Variety Qualities

Freeze Damage Sensitivity: Moderate severity (Similar to Gala)

Bloom Timing: Early / Mid

Fire Blight: Moderate severity (Similar to Gala)

Fruit Drop: Not prone to drop

Tree Growth Habits: Low-moderate growth, pendent limbs. Once trees start yielding a crop, growth can shut down similar to Honeycrisp, blind wood tendencies

Fruit Qualities

Harvest Timing: Early Season (1-2 weeks before Gala)

Fruit Flavor/Texture: Very Sweet / Dense

Fruit Firmness: Approximately 17-20 lbs.

Brix (% Fruit Sugar Content): Approximately 14.5%-18%

Starch Pattern Index (SPI): 6-8 (Cornell 1-8 Starch chart). Holds flavor better at 6-7 Starch

Bitter Pit/Lenticle Break down: Not observed at harvest, potential minor lenticel breakdown in storage

Moldy Core: Not observed at this point

Water Core: Moderate severity, seems to dissipate fairly rapidly in common storage

Bitter Rot: Has been found in storage

Russet: Moderate severity due to freeze damage (Similar to Gala)

Storage: Short term storage life, due to maintaining varietal flavor (3 Months)

Fruit Thinning Comments

1: MAIA-SM (Sweet Maia®), tends to set a heavy crop. They need to be thinned moderately aggressive.

2: If trees are over cropped, it will lead to poor fruit size, reduced color, & reduced sugar levels.

3: Biennial bearing has not been noticed, even with over cropping issues (on Bud 9 rootstock).

4: Hand thinning is recommended if chemical thinning does not provide adequate thinning.

2025 Fruit Thinning Trial, Conducted in Lyons, NY, Reality Research LLC.

Thinning Weather Conditions: Max Temp 83°F, Min Temp 57°F, Solar Radiation 21.7, Thinning Index -39.99

Rootstock: Bud 9

Tree Age: 7 Years

Growth Stage: 5-6mm Fruit Size

Thinning Date: 5/16/2025



	Untreated Check	NAA 4 fl oz/a Carbaryl 32 fl oz/a	Maxcel 64 fl oz/a Carbaryl 32 fl oz/a	Brevis 1.5 pt/a Regulaid 2 pt/500 Gal	Brevis 2 pt/a Regulaid 2 pt/500 Gal
% Increased Fruit Thinning:		-1.06	22.04	18.85	35.75
Percent fruited Clusters:	56.58	57.19	44.11	45.91	36.35
% Fruit (Top) Position of Tree	40.44	38.09	24.09	23.39	20.97
% Fruit (Mid) Position of Tree	34.10	33.85	42.28	35.69	29.95
% Fruit (Lower) Position of Tree	25.46	28.06	33.63	40.92	49.08
%, 1 Fruited Clusters:	38.56	49.89	66.82	50.82	56.52
%, 2 Fruited Clusters:	30.39	31.05	21.36	32.36	32.69
%, 3 Fruited Clusters:	23.93	15.98	8.55	14.20	9.27
%, 4 Fruited Clusters:	5.79	3.08	3.28	2.62	1.52
%, 5 Fruited Clusters:	1.33	0.00	0.00	0.00	0.00

Reality Research Data for MAIA-RZ



Variety Qualities

Freeze Damage Sensitivity: Light severity (Honeycrisp - Fuji severity)

Bloom Timing: Late

Fire Blight: Light severity

Fruit Drop: Not prone to drop, can get greasy and splits, similar to Gala. Retain® evaluations coming in the future.

Fruit Qualities

Harvest Timing: Early Season (Honeycrisp timing).

Fruit Flavor/Texture: Sweet / Crisp / Crunchy (similar to Gala).

Fruit Firmness: Approximately 16-19 lbs.

Brix (% Fruit Sugar Content): Approximately 14%-16%.

Starch Pattern Index (SPI): 6-7 (Cornell 1-8 Starch chart).

Bitter Pit/Lenticle Break down: Minor lenticle breakdown in storage.

Moldy Core: Not observed at this point.

Water Core: Not observed at this point.

Bitter Rot: Not observed at this point.

Russet: Light severity due to freeze damage (between a Honeycrisp & Fuji severity).

Storage: Seems to have decent storage life (similar to Gala), more storage work needed.

Fruit Thinning Comments

1: MAIA-RZ (Red Zeppelin®), tends to self thin. They need to be thinned light to moderately aggressive.

2: If trees are over cropped, it will lead to poor fruit size, reduced color, & reduced sugar levels

3: Biennial bearing has not been noticed.

4: Hand thinning is recommended if chemical thinning does not provide adequate thinning.

2025 Fruit Thinning Trial, Conducted in Lyons, NY, Reality Research LLC.

Thinning Weather Conditions: Max Temp 83°F, Min Temp 57°F, Solar Radiation 21.7, Thinning Index -39.99

Rootstock: Bud 9

Tree Age: 4 Years

Growth Stage: 5-6mm Fruit Size

Thinning Date: 5/16/2025



	Untreated Check	NAA 4 fl oz/a	NAA 3 fl oz/a Carbaryl 16 fl oz/a	NAA 3 fl oz/a Carbaryl 32 fl oz/a
% Increased Fruit Thinning:		6.28	23.91	43.64
Percent fruited Clusters:	53.04	49.71	40.36	29.89
% Fruit (Top) Position of Tree	48.71	46.83	38.63	30.42
% Fruit (Mid) Position of Tree	30.52	40.05	41.23	33.33
% Fruit (Lower) Position of Tree	20.77	13.12	20.14	36.25
%, 1 Fruited Clusters:	80.48	68.48	87.92	82.59
%, 2 Fruited Clusters:	19.52	21.04	12.08	17.41
%, 3 Fruited Clusters:	0.00	10.48	0.00	0.00
%, 4 Fruited Clusters:	0.00	0.00	0.00	0.00
%, 5 Fruited Clusters:	0.00	0.00	0.00	0.00

Reality Research Data for MAIA-AM



Variety Qualities

Freeze Damage Sensitivity: Light severity (Honeycrisp - Fuji severity)

Bloom Timing: Early / Mid

Fire Blight: Light / Moderate severity

Fruit Drop: Prone to drop in over cropped situations

Tree Growth Habits: Moderate growth, pendent limbs (similar to Fuji)

Fruit Qualities

Harvest Timing: Early Season (Honeycrisp timing)

Fruit Flavor/Texture: Sweet Flavor / Crisp.

Fruit Firmness: Approximately 16-19 lbs.

Brix (% Fruit Sugar Content): Approximately 14%-16% .

Starch Pattern Index (SPI): 6-8 (Cornell 1-8 Starch chart).

Bitter Pit/Lenticle Break down: Light lenticel breakdown at harvest & in storage.

Moldy Core: Has been seen in a year with extreme rain fall during bloom.

Water Core: Light severity at harvest, dissipate quickly in storage.

Bitter Rot: Has been found in storage.

Russet: Light severity due to freeze damage (between a Honeycrisp & Fuji severity).

Storage: Holds flavor & texture. Prone to exterior defects, including dehydration. More storage work needed.

Fruit Thinning Comments

1: MAIA-AM (Amarilla Soul®), tends to set heavy. They need to be thinned light to moderately aggressive.

2: If trees are over cropped, it will lead to poor fruit size, & reduced sugar levels.

3: Biennial bearing is not an issue, unless trees are over cropped the prior year, leading to reduced crop load.

4: Hand thinning is recommended if chemical thinning does not provide adequate thinning.

2025 Fruit Thinning Trial, Conducted in Lyons, NY, Reality Research LLC.

Thinning Weather Conditions: Max Temp 83°F, Min Temp 57°F, Solar Radiation 21.7, Thinning Index -39.99

Rootstock: Bud 9

Tree Age: 4 Years

Growth Stage: 5-6mm Fruit Size

Thinning Date: 5/16/2025



	Untreated Check	NAA 4 fl oz/a	NAA 3 fl oz/a Carbaryl 16 fl oz/a	NAA 3 fl oz/a Carbaryl 32 fl oz/a
% Increased Fruit Thinning:		14.88	18.13	40.46
Percent fruited Clusters:	44.57	37.94	36.49	26.54
% Fruit (Top) Position of Tree	51.87	49.39	52.14	33.75
% Fruit (Mid) Position of Tree	33.46	31.42	28.57	48.58
% Fruit (Lower) Position of Tree	14.67	19.18	19.30	17.67
%, 1 Fruited Clusters:	69.46	78.06	83.19	86.33
%, 2 Fruited Clusters:	30.54	21.94	16.81	13.67
%, 3 Fruited Clusters:	0.00	0.00	0.00	0.00
%, 4 Fruited Clusters:	0.00	0.00	0.00	0.00
%, 5 Fruited Clusters:	0.00	0.00	0.00	0.00

MAIA Apples

MAIA TREES MAY BE PURCHASED FROM THE FOLLOWING MAIA-LICENSED NURSERIES.

Adams County Nursery
Brandt's Fruit Trees, LLC
Cameron Nursery, LLC
Countryside Farm & Nurseries LLC
Gold Crown Nursery
Gold Star Nursery
Hilltop Fruit Trees LLC
Mike & Brian's Nursery, Inc.
Saunders Bros Inc
Sierra Gold Nurseries
Van Well Nursery Inc
Wafler Nursery
Willow Drive Nursery, Inc.

GRAFTING, TOPWORKING & ON-FARM NURSERIES

All MAIA varieties are protected by plant patents and all apple brand names are protected by registered trademarks. Topworking, grafting or otherwise producing MAIA varieties without permission is strictly prohibited. Please contact **billing@maiaapples.com** to receive a grafting form for permission.

EXPORTING EVERCRISP® APPLES

The MAIA License Agreement prohibits exporting EverCrisp® apples to other countries without first entering into a separate export agreement with MAIA. Reach out to **bdodd@maiaapples.com** if you need further information.



SWEET MAIA® (MAIA-SM)

Kick off harvest with this early-season sweet delight that will win over the masses.

Parents/Cross: Honeycrisp x Winecrisp

Plant Patent #: USPP 34,437

Harvest Dates: 1 week before Gala



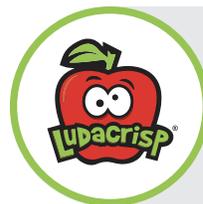
SCRUFFY® (MAIA-T)

A uniquely flavored fall apple, noted for its complex, tart taste with a sweet finish and great texture.

Parents/Cross: Honeycrisp, open-pollinated

Plant Patent #: USPP 30,088

Harvest Dates: 2 weeks after Gala



LUDACRISP® (MAIA-L)

This tantalizing apple is all the best parts of sweet, juicy, and tropical, with an amazing texture and crunch.

Parents/Cross: Sweet 16, open-pollinated

Plant Patent #: USPP 30,472

Harvest Dates: 4 weeks after Gala

PLU #: 3537



AMARILLA SOUL (MAIA-AM)

Crispy and juicy with a smooth, russet-free yellow peel, this apple is adored for its snappy texture and refreshing burst of flavor.

Parents/Cross: Honeycrisp x Fuji

Plant Patent #: USPP 36,071

Harvest Dates: 1 week after Gala, long harvest window



SUMMERSET® (MAIA12)

Your tastebuds will dance the tango with a tangier flavor reminiscent of its parent, Honeycrisp.

Parents/Cross: Honeycrisp x Fuji

Plant Patent #: USPP 29,213

Harvest Dates: 1 week after Gala



RED ZEPPELIN® (MAIA-RZ)

A sensational full red fruit with crisp, firm flesh and exceptional storage ability, this apple stands out for its quality and longevity.

Parents/Cross: Honeycrisp, open-pollinated

Plant Patent #: USPP pending

Harvest Dates: 2 weeks after Gala



ROSALEE® (MAIA11)

With a floral taste, clean aroma, and exquisite texture, this melt-in-your-mouth apple aims to surprise.

Parents/Cross: Honeycrisp x Fuji

Plant Patent #: USPP 29,146

Harvest Dates: 3 weeks after Gala



SWEET ZINGER® (MAIA-Z)

A splash of honey equally balanced with a dash of tartness will have your senses lighting up with bewilderment.

Parents/Cross: Goldrush x Sweet 16

Plant Patent #: USPP 30,059

Harvest Dates: 4 weeks after Gala



EVERCRISP® (MAIA1 & MAIA-MITCHELL)

As a late harvest varietal, this apple excites with its crispier texture, sweet flavor, and long shelf life. EverCrisp® wraps up harvest season with a standing ovation.

Parents/Cross: Honeycrisp x Fuji

Plant Patent #: USPP 24,579 (MAIA-1)

USPP 37,169 (MAIA-Mitchell)

Harvest Dates: 5 weeks after Gala

PLU #: 3490

Reality Research, LLC 2025; Maturity Comparisons of MAIA-1 & MAIA-Mitchell



MAIA-1 (EverCrisp®)

	3-Oct	10-Oct	17-Oct	24-Oct	31-Oct
Avg. Pressure	21.5	20.3	19.6	18.6	17.9
Avg. Brix:	14.7	15.4	15.9	16.1	14.8
Avg. Starch:	4.6	5.6	6.2	7.4	8

MAIA-Mitchell (EverCrisp®)

	3-Oct	10-Oct	17-Oct	24-Oct	31-Oct
Avg. Pressure	23.6	22.3	22.0	21.0	17.6
Avg. Brix:	16.2	18.2	18.2	18	16.4
Avg. Starch:	5.2	6	6	7	7

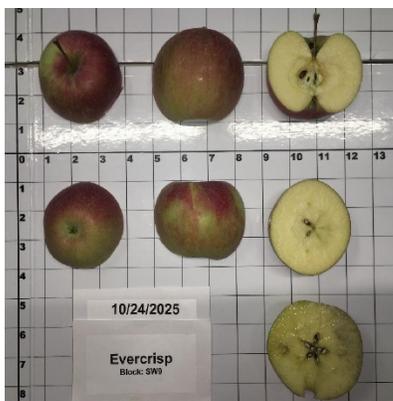
MAIA-1 (EverCrisp®) Vs. MAIA-Mitchell (EverCrisp®) 3 Weeks Prior to Harvest / “Top & Bottom of Fruit”



MAIA-1 (EverCrisp®) Vs. MAIA-Mitchell (EverCrisp®) At Harvest / “Top & Bottom of Fruit”



MAIA-1 (EverCrisp®) at Harvest



MAIA-Mitchell (EverCrisp®) at Harvest



MAIA-1 (EverCrisp®) Vs. MAIA-Mitchell (EverCrisp®) Comments

Currently evaluating 3 year old MAIA-Mitchell Trees. Following comments are current observations.

- 1:** Bloom, the MAIA-Mitchell strain might come into bloom earlier than MAIA-1.
- 2:** Fruit set & thinning seems to be similar to MAIA-1.
- 3:** Fruit size also seems to be consistent with MAIA-1.
- 4:** Fruit color starts developing 4-6 weeks prior to harvest.
- 5:** Water core also seems to be consistent with MAIA-1. Young trees, light crop load increases Water core severity.

MAIA-1 (EverCrisp®) apples: the need to prolong storability

Yosef Al Shoffe and Chris Watkins

Cornell University

Horticulture Section, School of Integrative Plant Science, College of Agriculture and Life Sciences

We are continuing to develop effective long-term storage protocols for this impressive eating apple but unfortunately do not have solutions yet. Our research focuses on nine-month storage periods with the goal of providing information that allows for year-round availability. We are especially interested in the use of controlled atmosphere (CA) storage and dynamic CA storage.

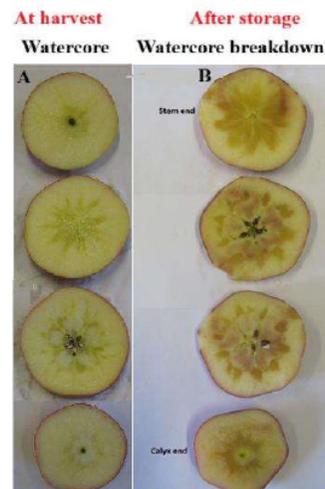
Introduction

'MAIA-1' is particularly susceptible to watercore, a physiological disorder resulting from the accumulation of sorbitol (a sugar alcohol) in the fruit's intercellular spaces. Watercore can be severe, leading to significant postharvest losses during storage and handling. This is due to its association with watercore breakdown, characterized by browning of the flesh in affected areas, and internal browning, which may extend from the fruit shoulders to the calyx end including the fruit core. Internal browning is a low-temperature storage injury. 'MAIA-1' fruit typically must remain on the tree for an extended period to achieve optimal red color, which in turn increases watercore incidence.

The growing year-round demand for high-quality apples underscores the importance of CA and DCA storage technologies. These approaches help maintain fruit quality. However, low oxygen conditions under CA/DCA can exacerbate watercore breakdown and internal browning, as the lack of oxygen in intercellular spaces, already filled with sorbitol, can increase tissue injury.

To mitigate watercore, apples are typically held in air storage at 38°F or 50°F for a defined period, depending on the severity and incidence of the disorder. Nonetheless, the current industry practice of storing 'MAIA-1' apples in air at 38°F for three months prior to CA/DCA transition may be insufficient to fully dissipate watercore. Consequently, fruit may still exhibit over 50% postharvest losses due to disorders such as watercore breakdown, flesh browning, and core browning. Additionally, prolonged air storage increases the risk of greasiness, where cuticle degradation causes the fruit surface to become oily,

compromising the wax coating and market appearance. The cultivar is also susceptible to chilling-related flesh browning, highlighting the need to optimize storage temperature in relation to both pre- and postharvest watercore status.



Storage limitations

The limitations to successful storage of MAIA-1 are the development of flesh browning, core browning, and watercore breakdown. In addition, control methods for these disorders must also avoid excessive greasiness.

Flesh browning:

The disorder appears to be associated with low storage temperatures. Our first studies found an average of 11% in fruit from eight orchard blocks at 33°F compared with fruit free from flesh browning at 38°F.

Core browning:

Development of core browning is exacerbated by postharvest 1-methylcyclopropene (1-MCP). Core browning was on average 60% higher in fruit harvested from eight orchard blocks compared with untreated fruit. Therefore, we do not recommend use of postharvest 1-MCP.

Watercore and associated breakdown incidence:

'MAIA-1' can develop severe watercore during fruit maturation, especially when harvest is delayed to allow additional color development. Watercore increases as fruit maturity advances, and the IAD value, used as a nondestructive indicator of chlorophyll content, correlates with both the incidence and severity of watercore, with lower IAD values associated with higher watercore levels. We also found that applying a half rate of ReTain two weeks before the anticipated harvest reduced watercore at harvest by 40% and lowered the incidence of watercore breakdown and fruit greasiness during storage in air, CA, or DCA. However, ReTain application delayed color development compared with untreated fruit.

Research Progress

'MAIA-1' apples harvested on October 24, 2023, from mature trees at Realty Farms in western New York were stored in the Cornell University postharvest laboratory under DCA conditions of 0.6% O₂ and 1% CO₂, following either a one-week delay in air at 38°F or a three-month delay in CA (10% O₂, 1% CO₂). DCA after CA of 10% O₂ treatment maintained higher fruit acidity and effectively prevented greasiness compared with fruit held in delayed-air storage or fruit stored for nine months under CA conditions (2% O₂, 1% CO₂ at 38°F plus seven days at 68°F). However, all storage treatments showed high levels of core browning, consistent with chilling injury. Watercore incidence at harvest was low (approximately 2.5%), and watercore dissipated across all treatments during storage. No watercore breakdown was observed at the end of storage.

Table (1) Flesh firmness, IAD value, soluble solids content (SSC), titratable acidity (TA), greasiness, stem end flesh browning (SEFB), flesh browning (FB), and core browning (CB) after 9 months of storage at 38°F in controlled atmosphere (CA) or dynamic controlled atmosphere storage (DCA) plus 7 days at 68°F. ns = nonsignificant, *, *** = significant at P value = 0.01 or < 0.0001, respectively.

Storage Treatment	Firmness (lb)	IAD (0-5)	SSC (%)	TA (%)	Greasiness (%)	SEFB (%)	FB (%)	CB (%)
*T1	16.9	0.88	11.7	0.23a	0b	6.2	16.2	82.5
*T2	16.8	0.68	12.4	0.16b	48a	15.6	17.9	90.4
*T3	16.7	0.73	13.1	0.16b	19.5c	6.2	15.5	81.4
Significance	ns	ns	ns	*	***	*	ns	ns

*T1 = CA 10% O₂ and 1% CO₂ were initiated after 1 week of storage and kept at 38°F for 3 months before DCA 0.6% O₂ and 1% CO₂ for the rest of 9 months.

*T2 = CA 2% O₂ and 1% CO₂ started after 3 months of storage at 38°F and stored for 9 months.

*T3 = DCA 0.6% O₂ and 1% CO₂ initiated after 3 months of storage at 38°F and stored for 9 months.

In a different orchard block on the same farm and during the same harvest season, fruit were collected from young (fifth-leaf) trees that were either untreated or treated with ReTain at full or half rates, applied three weeks or one week before the anticipated harvest date. Fruit were stored at 38°F or 50°F for three months to monitor watercore dissipation in relation to ReTain rate, application timing, and storage temperature. Watercore incidence at harvest ranged from 88% to 100% across all preharvest treatments. After three months at 50°F, watercore had fully dissipated (100%), whereas storage at 38°F resulted in 77% dissipation. Half-rate ReTain applications, whether applied three weeks or one week before anticipated harvest, promoted watercore dissipation compared with the other treatments at both storage temperatures (Fig. 2).

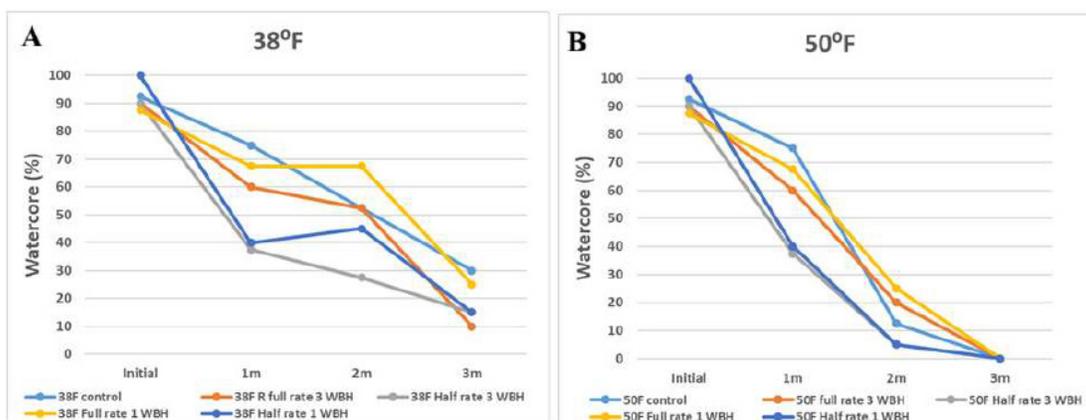


Fig. 2 Watercore percentage in fruit treated or not with ReTain as full or half rate at 3 weeks or 1 week before anticipated harvest and stored at 38 or 50°F for 3 months for monitoring watercore dissipation in relation to the preharvest ReTain treatment and timing and postharvest storage temperature.

Recent studies from the 2024 harvest season showed that ‘EverCrisp’ apples stored in CA or DCA at 42°F exhibited 13%, 12%, and 14% less flesh browning, core browning, and watercore breakdown, respectively, compared with fruit stored at 38°F. Nevertheless, the incidence of browning at both temperatures remained commercially unacceptable.

Ongoing research aims to further clarify how storage temperature interacts with harvest timing, preharvest plant growth regulators, and CA/DCA conditions to influence the development of physiological disorders.

Current guidelines and recommendations.

1. Watercore increases as fruit maturity advances.
2. The optimum storage temperature is 38°F, though higher temperatures are currently being evaluated.
3. 1-MCP enhances the development of internal browning.
4. Preharvest ReTain applications influence watercore incidence and postharvest watercore dissipation.
5. Delayed air storage followed by DCA shows promise; however, internal browning (as a form of chilling injury) and watercore breakdown resulting from preharvest watercore remain the major challenges in storing ‘MAIA-1’ apples.

Acknowledgement

We would like to thank Brad Palmer from Realty Research for his collaboration and for providing the fruit, and Ryan Hess from Hess Brother’s Fruit Company for his coordination and support.

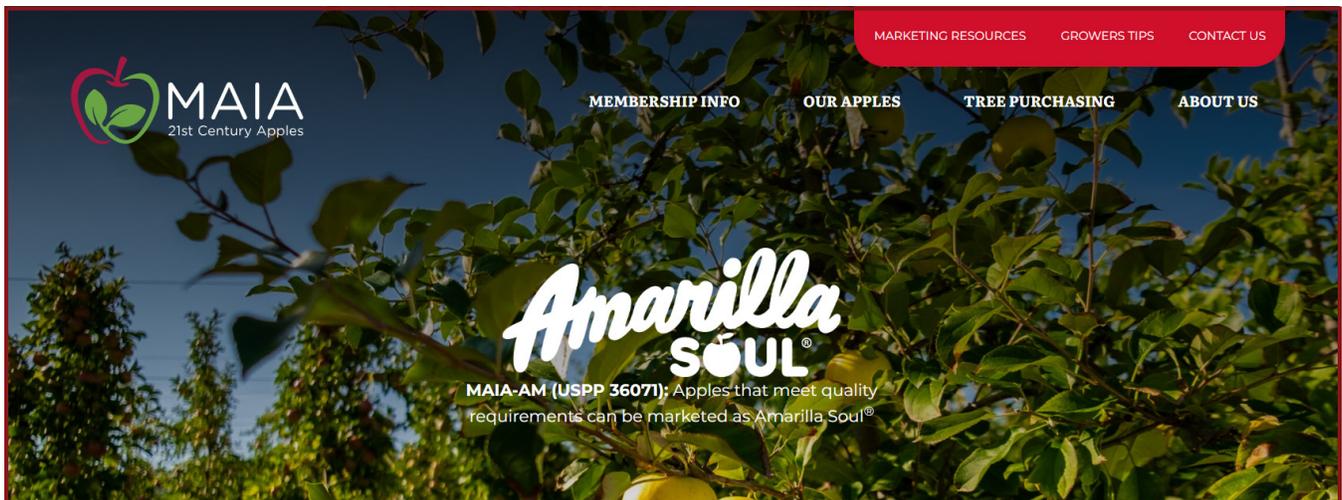


MAIA Is Here to Help With Your Marketing!

We are here to assist you with your marketing needs for all the MAIA apples that you grow and pack.



If you are designing your own packaging, please use licensed Trademarks and Logos on all packaging & labels. Please send a copy of designs to MAIA for approval (marketing@maiaapples.com)



MAIA Website

maiaapples.com

Find answers to all your questions on our website; information about varieties, growing tips and marketing resources.

Follow & Share



Follow and share our EverCrisp® Facebook and Instagram pages.
Join the MAIA Member Group on Facebook to exchange insights and grower tips.

Group by EverCrisp Apples

MAIA Member Group

Private group · 550 members



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GET SOCIAL WITH MAIA

- Please join! This helps spread the word to consumers and sharing will help consumers find your farm!
- Follow us on the MAIA LinkedIn page!

MAIA Order Form



MAIA apple Tree-Row signs for pick-your-own sites.

Metal - 10"x7"



Point-of-Sale cards feature unique QR codes for each MAIA website.

Cardstock 8"x5-1/2"

Apples	Tree Row Signs - QTY	Point-of-Sale Cards - QTY
EverCrisp®		
Ludacrisp®		
Sweet Maia®		
Red Zeppelin®		
Amarilla Soul®		
Summerset®		
Scruffy®		
Rosalee®		
Sweet Zinger®		
Total		

Name:

Email:

Phone:

Address:

Mail to: MAIA PO Box 88 Oberlin, OH 44074
Or email marketing@maiaapples.com with your order information; also available on the MAIA website.



PO Box 88
Oberlin, OH 44074

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